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(54) **System, apparatus and method for generating large jackpots on live card game tables**

System, Vorrichtung und Verfahren zum Erzeugen grosser Gewinne bei Kartenglücksspielen

Système, dispositif et méthode pour la génération de gains importants aux tables de jeux de cartes

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(73) Proprietor: **International Game Technology**
Reno, Nevada 89511-8986 (US)

(72) Inventors:

- **Paulsen, Craig A.**
Reno, Nevada 89511 (US)
- **Pease, Logan L.**
Reno, Nevada 89509 (US)
- **Bertram, William K.**
Reno, Nevada 89511 (US)

- **Carmean, Wes F.**
Reno, Nevada 89502 (US)
- **Chilton, Ward W.**
Reno, Nevada 89510 (US)
- **Hedrick, Joseph R.**
Sparks, Nevada 89436 (US)

(74) Representative:
Finsterwald, Manfred, Dipl.-Ing.,
Dipl.-Wirtsch.-Ing. et al
Robert-Koch-Strasse 1
80538 München (DE)

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WO-A-92/21413 **US-A- 4 362 177**
US-A- 4 861 041

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Description

BACKGROUND OF THE INVENTION

The present invention enhances the attractiveness and excitement of live card games in general, and the card game known as "21" or blackjack in particular, by adding to such games a large jackpot component which is comparable in size to large jackpots which are now routinely won in casinos when playing slot machines large numbers of which are combined in a single, enhanced jackpot payoff system.

The creation of large jackpots with slot machines is well known and relatively easy because of the large number of such machines which are in operation and the ease with which these machines can be electronically combined. The large jackpots are generated by accumulating a portion of each bet placed in each machine on the system and establishing sufficiently low odds for winning the jackpot that the likelihood of winning the jackpot on any single game becomes extremely small. The electromechanical character of the machines and the absence of an intervening dealer who participates in each game on the part of the casino makes it relatively easy to generate large jackpots, say, in excess of \$1 million.

The same is not true for live card games. Such games are neither mechanically nor electrically played, but with a dealer who represents the house (casino). This increases the difficulty of retaining parts of the bets placed during the games and accumulating them in a jackpot, with high odds against winning it. In addition, in live card games the dealer must determine when a player has a jackpot winning hand, which further complicates the setup and generation of truly large jackpots.

U.S. patent 4,861,041 (corresponding to the preamble of claims 1 and 13) discloses a live card game, primarily poker or blackjack, which has a jackpot component. However, this patent only discloses to accumulate a jackpot based on bets placed on a single card game for the simple reason that nobody can keep track of bets placed on multiple tables in the casino, much less placed on multiple tables in different gaming establishments within a given locality, be this a single city or an entire state or country.

Although the live card game disclosed in the '041 patent is capable of generating a jackpot, it is necessarily of only modest size for two reasons. First, the number of players that may participate in the jackpot is limited to the number of players on a particular table. Secondly, especially for blackjack, the probability of reaching 21 even with the combination of cards which has the smallest probability of reaching this number is relatively high. Consequently, players will win the jackpot in the system disclosed in the '041 patent quite frequently so that there is never enough time to accumulate more than a modest jackpot at best.

As a result, live card games could never match the

large size of jackpots that can be won when playing mechanical or video slot machines, for example. Even though playing live card games is very popular, at least in part because when playing a card game a player can utilize his skill and knowledge of the game to at least make him believe he can enhance his chances of winning, he never has the chance to win large sums of money which are even remotely comparable to the multi-million dollar jackpots that are frequently paid out by casinos which participate in systems made up of thousands or tens of thousands of slot machines all of which pay a percentage of the bets into a common jackpot pool.

Thus, to enhance the attractiveness of live card games and to provide greater player satisfaction, there is a need to modify live card games so that truly large jackpots; e.g. in excess of \$100,000 or \$1 million, for example, can be won and, of course, there is a need for a system which can accomplish this.

WO-A-92/21413 discloses a device for speeding the pace of a game of blackjack. The device is comprised of a housing having a top surface and an upper planar portion. The top surface will be connected on the top to the upper planar portion and a card reader for reading a corner of a specialized playing card is located within the housing. An indicator cooperating with the card reader is provided to inform the dealer if his down card is of a desired value. This reference also discloses a method for increasing the speed of play in an organized game of blackjack.

US-A-4,362,177 discloses a coin counting system including a coin guide for guiding a series of coins to be counted therealong and a belt conveyor for conveying the coins in the guide. A light source is disposed at a downstream portion of the guide. Pre- and post-sensors are juxtaposed to each other upstream and downstream in the coin conveying direction and are arranged to receive the light from the light source and to be included temporarily within the generally triangular space, which is defined by the inner wall of the coin guide and by the facing circumferential portions of the two coins being conveyed adjacent to each other, thereby to generate respective signals.

The present invention provides a device according to claims 1 and 13, a system according to claim 18 and 20 and a method according to claim 25.

Advantageous embodiments are subject of the dependent claims.

Pursuant to the present invention according to claim 25, live card games, and in particular blackjack, continue to be played on individual card playing tables pursuant to customary rules of play. Further, a separate jackpot play or component is superimposed. For this, many tables, located within a single gaming establishment such as a casino or in multiple casinos which may be distributed throughout the city, state or country, play together. Consequently, there is no limit to the number of players who can participate in the jackpot play.

In addition, the present invention according to claim

25 modifies the odds of winning a jackpot by greatly reducing the probability for such a win. This is accomplished by playing on all tables within the system with multiple e.g. six, complete decks of cards and selective card combinations from the decks of cards which have a very low probability of occurrence.

By combining the low probability of winnings with a large number of players who can participate in the jackpot play, the present invention makes it possible to dramatically increase the size of the jackpots that can be won, because the probability of winning them becomes so low and, further, by having such large jackpots occur at sufficiently frequent intervals, because of the participation of many players therein, to attract and keep the attention of the players and, therefore, ensure the desired player participation in the game.

Broadly speaking, this is accomplished by setting up a system according to claim 20 which combines a plurality and typically a large number of live card gaming tables on which individual card games; e.g. blackjack, are played for participation in the jackpot component of the game. Jackpot-winning hands of cards are selected so that the probability of such a win is low. Precisely how low the probability should be is a function of the desired maximum size of the jackpot and is readily calculated by those skilled in the art. In a presently preferred embodiment of the invention which contemplates jackpot sizes of \$1 million and more, each table plays with six full decks of cards, and winning hands of cards are, for example, four 5s of the same suit; e.g. hearts or spades, plus an ace. Other card combinations can, of course, be substituted, such as, for example, a winning hand consisting of three 7s of the same suit when the size of the jackpot need not be as large.

As a refinement, to retain player interest and satisfaction, a preferred embodiment further contemplates to establish a plurality of jackpot winnings, a very large jackpot as defined above, and much lesser, more frequently won jackpots of \$50 and \$100 each, for example.

The overall system employed by the present invention according to claim 20 places a plurality of live card tables in one or more gaming establishments. Each table has a plurality of positions for participating players and a dealer position. Each player position includes a coin acceptor where a player who wishes to participate in the jackpot component of the game can place a corresponding side bet; e.g. a coin or a token (hereinafter generally referred to as "coin" without further distinguishing between the two). The acceptor senses when a coin has been placed on it and generates a signal which is fed to a central processor or computer that keeps track of and accumulates the available jackpot on the basis of the side bets which have been placed. Typically, the computer will accumulate less than the full amount of the bet; e.g. a percentage thereof, which may, for example, lie in the range of between 90%-97% of each side bet. Further, the central computer, preferably

a commercially available DEC Micro VAX 3100-40 or a similar computer, may divide the accumulating jackpot bets into two or three categories; for example, one main (large) jackpot and one or two lesser, more frequently hit jackpots as discussed above.

The system includes appropriate displays on or in the vicinity of the card tables which inform both the players and the dealers of the current size of the jackpot or jackpots that can be won when playing the jackpot component of the game.

The system further involves the house dealer in the necessary decision making and control of the game by providing appropriate means, such as push buttons operatively connected with the central computer, displays, etc., for signalling when a player on any given table has won a jackpot. The computer then automatically deducts the winning from the jackpot total shown on the displays. To facilitate the control of the game, the system further includes for each table an appropriate, typically electronic lockout mechanism. When activated by the dealer at the commencement of a card game, the lockout mechanism prevents the coin acceptors on that table from generating a signal, to thereby prevent unauthorized late betting. Once the game is over, the dealer reactivates the acceptors for the next game.

Another aspect of the present invention provides a gaming table according to claim 13 particularly well suited for playing live card games within the above-discussed system for generating large jackpots which can be won by any participating player on any of the tables of the system. Such a table includes a table top with a cut-out proximate each player position on the table and coin acceptors formed of preferably generally circular disks that are placed on the table top and over the corresponding cut-outs therein.

Displays showing the cumulative, available jackpots are preferably mounted on or positioned in close proximity to the table. The table includes the required controls for the dealer to prevent further betting on the table when a card game is about to commence and to signal to the central computer when a jackpot on that table has been won so that a corresponding amount can be deducted from what is shown on the displays. Further, of course, the table includes appropriate connections for the required communications between the coin acceptors, the dealer controls, the displays (if mounted on the table), and the central computer.

Another aspect of the present invention relates to the construction and functioning of a coin acceptor according to claim 1 which may be located at each player position on all tables. To not interfere with the functional arrangement and aesthetic appearance of conventional live card playing tables, and in particular blackjack tables, while keeping costs low, each coin acceptor is preferably a circular disk the under side of which is placed directly on top of the conventional felt on the table so that the disk covers the table cut-out beneath it. The disk has a preferably concentric, circular recess in its upper

side that is shaped to accept the coin and a sight aperture which extends through the disk and is located in the recess so that a coin placed in it covers the aperture. The outer periphery of the disk is frustoconically shaped and extends from about the under side to the upper side at an appropriately shallow angle of, for example, no more than 30° so that players can readily slide a coin along the felt, up the frustoconical ramp of the disk, and into the recess to place a bet for participating in the jackpot component of the game.

Beneath the disk, inside the table cut-out, is a printed circuit (PC) board which is preferably demountably secured to the disk with a screw or the like and which mounts a sensor for sensing the presence of a coin in the recess of the disk, a light source for visibly indicating to both the player and the dealer that a jackpot side bet has been placed, and the necessary electric circuitry for generating a signal indicating the presence of a coin in the recess and energizing the light source. To facilitate both the initial assembly and installation of the acceptor and its subsequent maintenance, the PC board further includes a quick disconnect coupler for supplying the required electric power for the circuitry and for forwarding coin-present signals from the sensor to the central computer. The PC board further automatically positions the sensor at the sight aperture and the light source at a location so that it is visible to the player and the dealer.

The coin acceptor of the present invention according to claim 1 can be installed directly on top of existing, otherwise conventional card tables and requires no more than forming the associated cut-outs in the table top and securing the disk to the table, either by screwing it directly into the table top or, preferably, providing a clamp plate which is drawn against the under side of the table top with screws that extend through both the disk and the table top. In this manner existing, already installed live card tables can be readily and relatively inexpensively converted for participating in the large jackpot winnings attainable with the system of the present invention because the need for special tabletop configurations, molds and the like is eliminated.

Thus, the present invention for the first time makes it feasible to provide large jackpots, comparable in size to jackpots that can be won on currently existing systems which combine large numbers of slot machines, such as the system widely known and played under the service mark MEGABUCKS®. This is expected to greatly enhance player satisfaction when playing live card games and significantly increase player participation in such games.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic layout and shows multiple live blackjack card playing tables located in different gaming establishments and electrically connected to a central computer for playing blackjack with a jackpot component capable of generating very

large jackpots;

Fig. 2 is a plan view of a coin acceptor constructed in accordance with the present invention;

Fig. 3 is a side elevation, in section, and is taken on line 3-3 of Fig. 2;

Fig. 4 is an electric circuit diagram of the circuitry incorporated in the coin acceptor shown in Fig. 2;

Fig. 5 is a plan view of a presently preferred control panel placed at the dealer position of each table shown in Fig. 1 and enabling the dealer to control the game, including the timing of betting and signaling when a jackpot was won by a player at that table; and

Fig. 6 is a diagram which schematically illustrates the overall system fiber optics connections between the central computer and the individual components.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to Figs. 1 and 6, a plurality of live blackjack card playing tables 2 are shown placed in gaming establishments or casinos 4, 6 located at different geographic locations within a city, state or country, for example. Each table has a generally half-round shape, as is conventional for blackjack tables, and a plurality; e.g. six or seven, of player positions 8 and a dealer position 12 which includes a conventional coin tray 15 in front of the dealer. During play, each participating player occupies one player position from where he places his bets, and the dealer, from the dealer position, deals the cards, collects the bets, and pays out the usual blackjack winnings as is conventional.

In addition, a coin acceptor 12 associated with; i.e. assigned to, each player position is preferably located approximately on or in the vicinity of a line connecting the player position with the dealer position. The detailed construction of the coin acceptors is given later, and each includes a sensor 14 for detecting when a coin (not shown in Fig. 1) is placed on the acceptor by a player. The sensor, and associated electric circuitry described below, generates a signal indicative of the presence of a coin on the acceptor which, in one embodiment of the invention, may be transmitted over a line 16 to a table control box 18 provided for each table. Further lines 20 lead from the table control boxes of all tables in the casino to a casino communicator 22 (CCOM) which includes a micro-processor for the collection of relevant data from the individual tables, such as coin-in, coin-out, etc. information, and which communicates with a central computer or processor 24 via modems and telephone lines 26.

Preferably, however, all tables 2 of a casino may be fiber optically connected in series with fiber optic lines 19 for communicating with the casino communicator 22, as is illustrated in Fig. 6. However, the same data is communicated between the CCOM and the tables as in the

embodiment shown in Fig. 1.

In instances in which the overall system is formed by tables within a single casino only, the CCOM 22 can be used to perform the functions of the central computer, although, when desired, especially in instances when the number of tables in such a casino is large, a central computer can, of course, be used, which will typically be located in that casino as well. When the system includes tables in multiple, separate casinos, as schematically illustrated in Fig. 1, the central computer will normally be off-site; for example, on the premises of a separate jackpot servicing organization which operates the system on behalf of the casinos.

Each table, or at least each participating casino, is provided with a display 28 which shows the current size of the jackpot that can be won by players on tables 2 as will be further described below. In instances in which players during any given game can win one of a plurality; e.g. three, of different jackpots, a separate display 28 may be provided to indicate the size of each jackpot, or the display is divided into three sections 26A-C for showing the size of each jackpot. Lines 30 connect each display with the central computer.

In the vicinity of the dealer position 10, each table also includes a "Start Game" or lockout button 32 which is connected with sensors 14 of the coin acceptors 12 of that table only via lines 34 and table control box 18. When the lockout button is activated; e.g. depressed by the dealer, the coin acceptors on that table will be deactivated so that, thereafter, the placement of a coin on the acceptor will not be sensed and recorded by the central computer, as further described below, to thereby prevent late betting. The same lockout button 32, or a separate End Game button 36 connected with the acceptors on that table only via lines 38 and table control box 18, is used by the dealer after the completion of a game on that table in preparation for the next game. The activation of the End Game button enables the players to again place bets on the coin acceptors for participating in the jackpot component of the next game.

There is further a win button 40 in the vicinity of the dealer position of each table which is connected with central computer 24 via a win line 42, table control box 18, line 20, casino communicator 22 and line 26. When, as further described below, a player on a table has a hand of cards which wins a jackpot, the dealer activates the win button and thereby signals to the central computer to deduct the amount of the jackpot from its memory and to correspondingly change the thereafter available jackpot winning(s) on the displays 28 to keep all players and dealers apprised of the available jackpots.

In a currently preferred embodiment, control buttons 32, 36 and 40 are incorporated on a control panel 44 (shown in Fig. 5 and further described below) which may be mounted, for example, at the dealer position of each table and below the table surface out of sight of the players.

Turning to the manner in which the preferred game

of blackjack is played, as far as the participating players can tell, each table 2 appears like a conventional live blackjack table except for the provision of a coin acceptor 12 at each player position. Before the start of a game, each player has the option of playing conventional blackjack by placing his bet on the table in front of his position. He can also participate in the jackpot component of the game by making an additional side or jackpot bet to signal his desire at a chance to win one of the available jackpots. When such a side bet is made, sensor 14 detects the presence of a coin on the acceptor and generates a signal which is relayed to the central computer. The computer increments the cumulative jackpot total by a corresponding amount, either by the face value of the bet coin or, more typically, by a predetermined percentage thereof. The jackpot total(s) shown on displays 28 is(are) correspondingly increased.

At the commencement of the game, the dealer depresses the Start Game button so that, thereafter, no further jackpot side bets can be placed or, if placed, will not generate a signal that is received by the computer, so that such a bet will not count. To enable the dealer to differentiate between valid and invalid side bets; that is, between timely side bets and side bets made late, each acceptor includes a signalling device, preferably a light (not shown in Fig. 1), which is energized when the side bet is timely but which remains deenergized if the side bet is late.

After the cards have been dealt and opened, the dealer pays conventional (single table) blackjack winnings and collects the bets of players with losing hands.

To enable the payout of large jackpots, blackjack is played on each table included in the overall system with a plurality of preferably six full decks of cards. The card combination with which a jackpot can be won is predetermined and selected to lower the probability of receiving such a hand during any game sufficiently so that, according to the laws of probability, very large jackpots can accumulate. As an example, to generate jackpots which can rise to as much as \$1 million or more, one can designate a winning hand as being composed of four "5s" plus an ace, all of the same suit, such as hearts or spades, for example. Jackpots of lesser sizes can be obtained, for example, by requiring the player to have three "7s" of the same suit. Other combinations to adjust the statistical size of the attainable jackpot can, of course, be selected in accordance with the laws of probability.

When a player who participates in the jackpot component of the game has a jackpot winning hand, the dealer depresses win button 40. The central computer 24 will then subtract from the accumulated, available jackpot total the jackpot just won by the player. The central computer also correspondingly adjusts the totals shown on all displays hooked up to it. The player or, in the case of large jackpots, the casino, after going through required win verification procedures, pays the jackpot to the winning player, directly on the table or at

a separate site (especially for large winnings) as may be appropriate and desirable under the circumstances.

If the system provides for the payment of more than one jackpot; for example, when, in addition to a very large jackpot in excess of \$100,000 or \$1 million, a player can also win lesser jackpots of, say, \$50 or \$100, additional, secondary jackpot win buttons 46, 48 are located proximate the dealer position of each table and, preferably, they are incorporated in control panel 44 (shown in Fig. 5).

Once all winnings have been paid off, or arrangements for off-site payments have been made, the dealer touches the End Game button 36 to again permit betting and another game cycle as described above begins.

Referring now to Figs. 1-5, each live table 2 has a flat, horizontal, usually wooden table top 50, suitably supported on the floor, which has conventional padding 52 and a typically green layer of felt 54. The table top includes a cut-out 56 for each player position which is located between the player position and the dealer position and extends through the top as well as the padding and the felt. Coin acceptor 12 is placed on top of the felt and fully covers the cut-out. A clamping plate 58 includes a cut-out 60 which provides full access to table cut-out 56 and is pulled against an under side 62 of the table top by screws 64 which are threaded into the clamping plate and which have heads engaging the acceptor so that, by tightening the screws, the plate and the coin acceptor are firmly clamped to the table top, including the felt, to thereby securely and demountably attach the coin acceptor to the table and maintain the felt taut. The clamping plate includes a grounding screw 57 which is pressfit into a hole in the plate.

Coin acceptor 12 preferably is made of a circular disk 66 having an under side 68 placed directly against felt 54 and an upper side 70. The disk is kept as thin as possible. In a presently preferred embodiment it has a thickness of about .26 inches (6.6 mm) so that it protrudes minimally above the table felt. Its circular periphery forms a frustoconically shaped peripheral surface 72 which slopes upwardly from about the felt to the upper surface of the disk at a moderate angle, preferably no more than 30°, so that a player can slide, as is typical in gaming, a coin along the felt and over the frustoconical periphery of the disk onto its upper surface without having to pick it up. The lower edge 73 of the frustoconical surface is preferably formed as shown in Fig. 3 to prevent the formation of a sharp edge which could be damaged during use and render the acceptor unsightly.

The upper side of the disk has a circular, depressed recess 74 of a diameter slightly larger than the diameter of coin 76 so that as the player slides the coin onto the upper surface of the disk it will gravitationally drop into the recess. To facilitate the subsequent removal of the coin from the recess, a bottom surface 78 thereof is connected to the remainder of the upper side, an annular, horizontal face 80, by a sloping surface 82 so that the coin need not be picked up but, instead, can be conven-

iently slid out of the recess.

Disk 66 further includes a sight aperture 84, preferably concentric with the disk and the circular recess 74, and closed by a transparent lens or glass 86 to prevent contamination of the sight aperture. The lens is flush with recess bottom 78 to facilitate its cleaning. There is also a rectangular opening 88 in the disk, preferably located so that it is visible to both the player and the dealer; e.g. in annular face 80 of the disk, and closed with a translucent; e.g. white or colored, window 90 to prevent contamination from entering the opening and to increase visibility of the window when backlit as described below.

Detachably secured to the under side 68 of disk 66 with a screw 94 is a PC board 92 which is disposed within table cut-out 56. The PC board mounts and positions coin sensor 14 in substantial alignment with sight aperture 84 and a light source 96, such as a LED, in substantial alignment with window opening 88 when the board is attached to the disk. The light source 96 functions as a visual "Coin Accepted Indicator". A quick-connect electric coupler 98 protrudes from the under side of the board into or through the table cut-out 56 for connection to line 16 leading from the PC board of the coin acceptor to the table control box 18.

Referring to Figs. 3 and 4, the PC board includes electric circuitry 100 for energizing LED 96 when sensor 14 detects the presence of a coin in recess 74 of disk 66. In a presently preferred embodiment of the invention, the sensor is a Darlington photo transistor (Q2) connected with terminal 1 of connector 98 to which +5 VDC is applied. The photo transistor is connected with ground terminal 4 of the connector via a 1K resistor R1, 47K resistor R2, and a transistor (2N5210), and, finally, a protection diode CR1 (1N4148) is provided for electrostatic discharge purposes.

Pin 5 of connector 98 is the output line and a Hewlett Packard HLMP-2300 LED connected with cathode pin 2 and ground pin 4 serves as light source 96.

In use, with PC board 92 installed beneath acceptor disk 66, ambient light entering sight aperture 84 through glass plate 86 turns on the photo resistor Q2 forming sensor 14. When a coin is placed in recess 74, ambient light is cut off, the photo sensor is turned off, and so long as the dealer has not depressed the Start Game (lock-out) button 32, the LED of light source 96 will be energized and a signal will be sent to the central computer 24 to increment the accumulated total of the jackpot(s) as a result of this bet. The light source illuminates window 90 of the coin acceptor to visually signal to the player and the dealer that a jackpot side bet has been placed and is in play.

Although the construction of the sensor was described as being simply capable of sensing the presence or absence of a coin in the recess of the coin acceptor, if desired, appropriate sensors can be used which are capable of discriminating between different types of coins. This is especially useful when playing

with tokens which can be appropriately marked on their faces so that a sensor can discriminate between different token denominations. In this manner, enhanced bets can be placed should this be desirable.

Referring to Figs. 1 and 5, as already mentioned, in a preferred embodiment of the invention a control panel 44 is mounted to each table 2 adjacent the dealer position; e.g. to the left thereof. The control panel is preferably positioned beneath the table top and is slightly sloped downwardly and away from the table so as to be easily viewed by the dealer while being out of the players' view. The panel preferably includes a series of seven LEDs 102 that are lit with the lights 96 of the coin acceptors 12 on that table so that the dealer can determine at a quick glance who has placed a jackpot side bet. The panel may further include meters 104 and 106, for example, to provide the dealer with information concerning the cumulative number of coins paid in at the table in question and/or systemwide and the number of games played over a given period. Meters 108, 110 and 112 on the control panel show the current sizes of the primary, secondary and tertiary jackpots, for example, by displaying the coin value of the jackpots divided by 10. Preferably there is also an LCD display 114 for dealer messages, system diagnostics, etc. and a reset key 116. Additional meters, indicators, controls and the like may, of course, be on the panel as needed or desired.

During play, each player can participate in either conventional jackpot, the jackpot component of 21 as described above, or both. To participate in the jackpot component, he places the appropriate coin into the coin acceptor recess 74 at his playing position, which turns off sensor 14, activates the corresponding LED 102 on the dealer panel 44, and sends a signal to the central computer that a jackpot side bet has been placed so that the computer can increase the jackpot total(s). After all bets have been placed, the dealer hits the Start Game button 32, after which further jackpot side bets will not be accepted, and deals the cards. Regular 21 game winnings are paid, and when a player has a jackpot hand, the dealer verifies the cards and thereafter hits the appropriate one of the jackpot buttons 40, 46 and 48. This causes the central computer to assign the jackpot to the winning player's table, subtracts the jackpot from the total available jackpot winnings accumulated by the computer, and appropriately resets displays 28 to thereby preclude the possibility that a jackpot of the same hand is won by a player on another table before the jackpot that is to be paid out has been deducted from the available total.

Smaller jackpots; say, up to a preset amount such as \$100 or \$500, can be paid directly by the dealer. When larger jackpots are involved, and as an added security measure, reset switch 116 may, for example, be a key-operated switch which is controlled by the pit boss and must be turned before play can resume, usually after the winning has been verified by the pit boss and arrangements for its payment have been made.

Claims

1. A coin acceptor (12) for use on live gaming tables (2) having a flat, horizontal table top (50), comprising a sensor (14) for detecting the presence of a coin, and circuit means (100) operatively coupled with the sensor (14) for generating a signal responsive to the presence of a coin and for transmitting the signal, characterized in that the acceptor (12) comprises a disk (66) having an under side (68) for placement on the table top (50), an upper side (70) and a sight aperture (84) extending through the disk (66); that said sensor (14) is mounted to the under side (68) of the disk (66) and positioned in substantial alignment with the sight aperture (84) for detecting the presence of a coin on the upper side of the disk (66); and that means (64) for securing the disk to the table plate are provided.
2. A coin acceptor according to claim 1 including a recess (74) formed on the upper side, disposed about the sight aperture (84) and sized to receive a coin so that the coin covers the sight aperture (84).
3. A coin acceptor according to claim 1 wherein the disk (66) includes a periphery defined by a sloping surface (72) extending substantially from the under side (68) to the upper side (70) of the disk to facilitate a slidable movement of a coin from the table top (50) onto the upper side when the acceptor (12) is installed on the table top (50).
4. A coin acceptor according to claim 3 wherein the periphery is curved.
5. A coin acceptor according to claim 4 wherein the periphery is substantially circular.
6. A coin acceptor according to claim 1 wherein the circuit includes a light source (96) and means for energizing the light source when the sensor (14) detects the presence of a coin on the upper side of the disk (66).
7. A coin acceptor according to claim 6 including a board (92) for mounting the circuit means (100) including the sensor (14) and the light source (96); and means (94) for securing the board to the under side (68) of the disk (66) so that the board (92) positions the sensor in substantial alignment with the sight aperture (84).
8. A coin acceptor according to claim 1 wherein the means for securing comprises a plate (58) including a cut-out (60) adapted to be in substantial alignment with a cut-out (56) in the table top (50), and means

- (64) for biasing the disk (66) and the plate (58) against opposing surfaces of the table top (50) to thereby secure the acceptor (12) to the table (2).
9. A coin acceptor according to claims 2 and 7, comprising a frustoconical peripheral surface (72) between the under side (68) and the upper side (70) for facilitating slidable movement of a coin from the table plate along the frustoconical surface (72) and into the recess (74), and an indicator opening (88) extending from the upper side (70) to the under side (68) and located between the recess (74) and the frustoconical peripheral surface (72); the board (92) being shaped so that the sensor (14) is in substantial alignment with the sight aperture (84) and the light source (96) is in substantial alignment with the opening (88).
 10. A coin acceptor according to claim 9 wherein the recess (74) is circular in shape and defined by a bottom (78), and including a sloping surface (82) between the recess bottom (78) and the upper side of the disk (66) for facilitating a slidable removal of a coin from the recess.
 11. A coin acceptor according to claim 9 including a cover (86) closing the sight aperture (84) to prevent contamination of the aperture and the sensor (14), the cover (86) being flush with the recess bottom (78) and constructed of a material permitting the sensor (14) to detect through the cover the presence of a coin in the recess (74).
 12. A coin acceptor according to claim 9 including a light transmitting window (90) placed over the opening (88) to prevent a contamination of the opening (88) and the light source (96).
 13. A gaming table (2) for playing a card game by a plurality of players and a dealer, the table (2) comprising a table top (50) and coin acceptors (12), characterized in that the table top (50) includes a top felt layer (54) and cut-outs (56) in the top (50) at locations proximate playing positions for the players on the table and generally intermediate the player positions (8) and a position (10) on the table for the dealer; and a coin acceptor (12) according to one of the preceding claims for each player position (8) on the table (2).
 14. A gaming table according to claim 13 when dependent on claim 12 wherein the window (90) is positioned in a portion of the upper side of the disk (66) closest to the dealer position (10).
 15. A gaming table according to claim 9 and 13 wherein the upper side (70) of the disk (66) defines an annular, flat surface between the recess (74) and the frustoconical surface (72) which is substantially parallel to the under side (68) of the disk (66), and wherein the opening (88) is located radially outward of the recess (74).
 16. A gaming table according to claim 15 wherein the opening (88) extends through the flat annular surface (72).
 17. A gaming table according to claim 13 including means accessible through the cut-out in the table top for detachably securing the board to the disk.
 18. An enhanced jackpot payoff gaming system for live card games at a plurality of gaming locations comprising:
 - a gaming table according to one of preceding claims 13-17;
 - a computer (22; 24) operatively coupled with the circuit means (100) of each coin acceptor (12) at each player position (8) on the tables for accumulating a jackpot of available payoff money in response to receipt of said signals from the coin acceptors (12);
 - means (28) operatively coupled with the computer (22; 24) for communicating to the players on the tables of the system the current size of the jackpot;
 - means (32) at each table located proximate the dealer position (10) for preventing the generation of signals by the acceptors (12) on that table when a coin is placed thereon after commencement of a card game on that table and while said card game is in progress; and
 - payoff means (40) for each table of the system, located proximate the dealer positions (12) and operatively coupled with the computer (22; 24) for deducting from the accumulated jackpot of available payoff money an enhanced jackpot payoff won by a player at a player position on the table who placed a coin in the associated coin acceptor (12).
 19. A system according to claim 18 including a side bet indicator (96) operatively coupled with each coin acceptor (12) for indicating when the sensor (14) detects the presence of a coin on the acceptor (12).
 20. A system for playing multiple, independent live blackjack card games at different locations (4, 6) and for accumulating jackpot money and awarding a large jackpot available under the system, the system comprising:

a plurality of live blackjack card playing tables (2), each table including a plurality of player positions (8) and a dealer position (10);

a coin acceptor (12) at at least some of the player positions (8) on the tables (2) of the system for enabling players to place a side bet for a chance to win a jackpot, the acceptor (12) including means (14) for sensing when a coin has been received by the acceptor (12) and means (100) for generating a corresponding participation signal;

lock-out means (32) at the dealer positions (10) on the tables (2) for preventing generation of a participation signal when a side bet is placed on acceptors (12) of a table once a card game on that table commences and until the card game on that table has concluded;

a computer (22; 24) operatively coupled with the acceptors on all tables for tracking accumulated jackpot money including means for increasing the size of the available jackpot as a function of side bets placed on the acceptors on all tables of the system;

means (28) operatively coupled with the computer for communicating to players and dealers on all tables of the system the size of the currently available jackpot;

payout means (40) at the dealer position (10) of all tables in the system operatively coupled with the computer (22; 24) permitting a dealer to communicate to the computer when a player on that table who placed a side bet on the coin acceptor holds a hand of cards entitled to the jackpot; and

wherein the computer (22; 24) is coupled with the means (28) for communicating for subtracting from the accumulated jackpot money the jackpot won by the player with said hand of cards and for communicating to the players and the dealers at the tables of the system a resulting change in the jackpot that can be won by players.

21. A system according to claim 20 wherein the blackjack game playable on the system includes a plurality of jackpots of differing magnitudes winnable by players when they hold predetermined hands of cards; and including a signalling means (28) adjacent each dealer position (10) on the tables (2) of the system operable by the dealer for communicating to the computer which of the plurality of jackpots has been won by a player on that table.

22. A system according to claim 20 wherein the means (28) for communicating includes means for separately communicating to the players and the dealers on the tables of the system the current magnitude of the plurality of jackpots.

23. A system according to claims 18 or 20 wherein the tables (2) are located in a single gaming establishment.

24. A system according to claims 18 or 20, wherein at least some of the tables are located at multiple, geographically separated gaming establishments.

25. A method of playing live blackjack card games and providing participating players with an opportunity to win a large jackpot when he holds a hand of predetermined cards, the method characterized by the steps of:

(a) playing a multiplicity of conventional, live blackjack games on a plurality of separate, live blackjack card game tables;

(b) affording players on the tables an opportunity to win said jackpot by placing a side bet coin at predetermined locations on the tables corresponding to player positions;

(c) sensing the placement of side bet coins on the tables;

(d) accumulating money available for payout of the jackpot as a function of each side bet coin placed on the tables;

(e) from the available jackpot money determining the size of the jackpot;

(f) playing blackjack on each table with a plurality of complete decks of cards;

(g) selecting said predetermined hand comprising a hand of cards of like denomination and suit;

(h) awarding the jackpot to a player who holds said predetermined hand of cards and has placed a side bet coin at said location;

(i) thereafter subtracting the jackpot won by the player holding said winning hand of cards from the available jackpot money; and

(j) repeating steps (a) - (h) until a next jackpot is won by a player.

26. A method according to claim 25 including the step

of locating the plurality of live card tables in a single gaming establishment.

27. A method according to claim 25 including the step of locating the plurality of tables in a plurality of geographically separate gaming establishments. 5
28. A method according to claim 25 wherein said predetermined hand of cards comprises three cards of the same suit each having a denomination of seven. 10
29. A method according to claim 25 wherein said winning card includes four cards of the same suit each having a denomination of five. 15
30. A method according to claim 29 including the step of playing the blackjack games on each of the plurality of tables with six complete decks of cards.
31. A method according to claim 30 wherein said jackpot is at least \$1 million. 20
32. A method according to claim 25 including the steps of establishing a plurality of jackpots of differing magnitude which can be won on the tables of the system, and selecting a like plurality of predetermined, different hands of cards with which the plurality of jackpots can be won. 25
33. A method according to claim 32 including the step of establishing three different jackpot totals. 30
34. A method according to claim 25 wherein the step of sensing comprises the step of generating an electrical signal for each side bet coin placed on said locations on the tables, and including the step of preventing the generation of the signal in response to side bet coins placed on locations of a table of the system on which a game of blackjack is about to commence to prevent the placement of late side bets. 35 40

Patentansprüche

1. Münzannahmeeinrichtung (12) zur Verwendung an mit realen Personen besetzten Spieltischen (2) mit einer flachen, horizontalen Tischplatte (50), umfassend einen Sensor (14), um die Anwesenheit einer Münze zu detektieren, und ein Schaltkreismittel (100), das wirksam mit dem Sensor (14) gekoppelt ist, um ein Signal zu erzeugen, das auf die Anwesenheit einer Münze anspricht, und um das Signal zu übertragen, 45
dadurch gekennzeichnet, daß 50
die Annahmeeinrichtung (12) eine Scheibe (66) umfaßt, die eine Unterseite (68) zur Anordnung auf der Tischplatte (50), eine Oberseite (70) und ein Sicht-

fenster (84) aufweist, das sich durch die Scheibe (66) erstreckt; wobei der Sensor (14) an der Unterseite (68) der Scheibe (66) angebracht und im wesentlichen mit dem Sichtfenster (84) ausgerichtet positioniert ist, um die Anwesenheit einer Münze auf der Oberseite der Scheibe (66) zu detektieren; und daß ein Mittel (64) vorgesehen ist, um die Scheibe an der Tischplatte zu befestigen.

2. Münzannahmeeinrichtung nach Anspruch 1, die eine Ausnehmung (74) umfaßt, die an der Oberseite gebildet ist, die um das Sichtfenster (54) herum angeordnet ist und die so bemessen ist, daß sie eine Münze aufnimmt, so daß die Münze das Sichtfenster (84) bedeckt. 15
3. Münzannahmeeinrichtung nach Anspruch 1, wobei die Scheibe (66) einen Umfang aufweist, der durch eine schräge Oberfläche (72) festgelegt ist, die sich im wesentlichen von der Unterseite (68) zur Oberseite (70) der Scheibe erstreckt, um eine Schiebewegung einer Münze von der Tischplatte (50) auf die Oberseite zu erleichtern, wenn die Annahmeeinrichtung (12) auf der Tischplatte (50) angebracht ist.
4. Münzannahmeeinrichtung nach Anspruch 3, wobei der Umfang gekrümmt ist.
5. Münzannahmeeinrichtung nach Anspruch 4, wobei der Umfang im wesentlichen kreisförmig ist.
6. Münzannahmeeinrichtung nach Anspruch 1, wobei die Schaltung eine Lichtquelle (96) und ein Mittel umfaßt, um die Lichtquelle mit Energie zu beaufschlagen, wenn der Sensor (14) die Anwesenheit einer Münze auf der Oberseite der Scheibe (66) detektiert.
7. Münzannahmeeinrichtung nach Anspruch 6, die eine Platine (92) aufweist, um das Schaltkreismittel (100) anzubringen, das den Sensor (14) und die Lichtquelle (96) umfaßt; und ein Mittel (94) umfaßt, um die Platine an der Unterseite (68) der Scheibe (66) zu befestigen, so daß die Platine (92) den Sensor im wesentlichen mit dem Sichtfenster (84) ausgerichtet positioniert. 45
8. Münzannahmeeinrichtung nach Anspruch 1, wobei das Befestigungsmittel eine Platte (58) umfaßt, die einen Ausschnitt (60) aufweist, der derart ausgebildet ist, daß er im wesentlichen mit einem Ausschnitt (56) in der Tischplatte (50) ausgerichtet ist, und ein Mittel (64) umfaßt, um die Scheibe (66) und die Platte (58) auf entgegengesetzte Oberflächen der Tischplatte (50) vorzuspinnen, um dadurch die Annahmeeinrichtung (12) an dem Tisch (2) zu befestigen. 55

9. Münzannahmeeinrichtung nach Anspruch 2 und Anspruch 7, umfassend eine kegelstumpfförmige Umfangsfläche (72) zwischen der Unterseite (68) und der Oberseite (70), um eine Schiebewegung einer Münze von der Tischplatte entlang der kegelstumpfförmigen Oberfläche (72) und in die Ausnehmung (74) zu erleichtern, und eine Anzeigeeinrichtungsöffnung (88), die sich von der Oberseite (70) zur Unterseite (68) erstreckt und zwischen der Ausnehmung (74) und der kegelstumpfförmigen Umfangsfläche (72) angeordnet ist; wobei die Platine (92) so geformt ist, daß der Sensor (14) im wesentlichen mit dem Sichtfenster (84) ausgerichtet ist, und daß die Lichtquelle (96) im wesentlichen mit der Öffnung (88) ausgerichtet ist.
10. Münzannahmeeinrichtung nach Anspruch 9, wobei die Ausnehmung (74) kreisförmig ist und durch einen Boden (78) festgelegt ist und eine schräge Oberfläche (82) zwischen dem Ausnehmungsboden (78) und der Oberseite der Scheibe (66) umfaßt, um ein verschiebendes Entfernen einer Münze aus der Ausnehmung zu erleichtern.
11. Münzannahmeeinrichtung nach Anspruch 9, die eine Abdeckung (86) umfaßt, die das Sichtfenster (84) verschließt, um eine Verunreinigung des Fensters und des Sensors (14) zu verhindern, wobei die Abdeckung (86) mit dem Ausnehmungsboden (78) bündig ist und aus einem Material hergestellt ist, das gestaltet, daß der Sensor (14) durch die Abdeckung die Anwesenheit einer Münze in der Ausnehmung (74) detektiert.
12. Münzannahmeeinrichtung nach Anspruch 9, die ein Lichtübertragungsfenster (90) umfaßt, das über die Öffnung (88) gesetzt ist, um eine Verunreinigung der Öffnung (88) und der Lichtquelle (96) zu verhindern.
13. Spieltisch (2) zum Spielen eines Kartenspiels mit mehreren Spielern und einem Geber, wobei der Tisch (2) eine Tischplatte (50) und Münzannahmeeinrichtungen (12) umfaßt, dadurch gekennzeichnet, daß die Tischplatte (50) eine obere Filzschicht (54) und Ausschnitte (56) in der Oberseite (50) an Stellen in der Nähe der Spielpositionen für die Spieler an dem Tisch und im allgemeinen zwischen den Spielerpositionen (8) und einer Position (10) an dem Tisch für den Geber umfaßt; und gekennzeichnet durch eine Münzannahmeeinrichtung (12) nach einem der vorhergehenden Ansprüche für jede Spielerposition (8) an dem Tisch (2).
14. Spieltisch nach Anspruch 13, wenn von Anspruch 12 abhängig, wobei das Fenster (90) in einem Teil der Oberseite der Scheibe (66) positioniert ist, der sich am nächsten bei der Geberposition (10) befindet.
15. Spieltisch nach Anspruch 9 und Anspruch 13, wobei die Oberseite (70) der Scheibe (66) eine ringförmige, flache Oberfläche zwischen der Ausnehmung (74) und der kegelstumpfförmigen Oberfläche (72) festlegt, die im wesentlichen parallel zur Unterseite (68) der Scheibe (66) liegt, und wobei die Öffnung (88) radial außerhalb der Ausnehmung (74) angeordnet ist.
16. Spieltisch nach Anspruch 15, wobei die Öffnung (88) sich durch die flache, ringförmigen Oberfläche (72) erstreckt.
17. Spieltisch nach Anspruch 13, der ein Mittel umfaßt, auf das durch den Ausschnitt in der Tischplatte gegriffen werden kann, um die Platine abnehmbar an der Scheibe zu befestigen.
18. Spielsystem für gesteigerte Jackpot-Auszahlungen für von realen Personen durchgeführte Kartenspiele an mehreren Spielorten, umfassend:
- einen Spieltisch nach einem der vorhergehenden Ansprüche 13 - 17;
- einen Computer (22; 24), der wirksam mit dem Schaltkreismittel (100) von jeder Münzannahmeeinrichtung (12) an jeder Spielerposition (8) an den Tischen gekoppelt ist, um einen Jackpot von verfügbarem Auszahlungsgeld in Ansprechen auf den Empfang der Signale von den Münzannahmeeinrichtungen (12) anzusammeln;
- ein Mittel (28), das wirksam mit dem Computer (22; 24) gekoppelt ist, um den Spielern an den Tischen des Systems die gegenwärtige Größe des Jackpots mitzuteilen;
- ein Mittel (32) an jedem Tisch, das in der Nähe der Geberposition (10) angeordnet ist, um die Erzeugung von Signalen durch die Annahmeeinrichtungen (12) an diesem Tisch zu verhindern, wenn nach dem Beginn eines Kartenspiels an diesem Tisch und während dieses Kartenspiels im Gange ist eine Münze gesetzt wird; und
- ein Auszahlungsmittel (40) für jeden Tisch des Systems, das in der Nähe der Geberpositionen (12) angeordnet ist und wirksam mit dem Computer (22; 24) gekoppelt ist, um aus dem angesammelten Jackpot von verfügbarem Auszahlungsgeld eine erhöhte Jackpot-Auszahlung abzuziehen, die von einem Spieler an einer

Spielerposition an dem Tisch, der eine Münze in die zugehörige Münzannahmeeinrichtung (12) gesteckt hat, gewonnen worden ist.

19. System nach Anspruch 18, das eine Nebenwetteinsatzanzeigeeinrichtung (96) umfaßt, die wirksam mit jeder Münzannahmeeinrichtung (12) gekoppelt ist, um anzuzeigen, wenn der Sensor (14) die Anwesenheit einer Münze an der Annahmeeinrichtung (12) detektiert.

20. System zum Spielen mehrerer, unabhängiger Black-Jack-Kartenspiele durch reale Personen an unterschiedlichen Stellen (4, 6) und zum Ansammeln von Jackpot-Geld und zum Zusprechen eines großen Jackpots, der unter dem System verfügbar ist, wobei das System umfaßt:

mehrere mit realen Personen besetzte Black-Jack-Kartenspieltische (2), wobei jeder Tisch mehrere Spielerpositionen (8) und eine Geberposition (10) umfaßt;

eine Münzannahmeeinrichtung (12) an wenigstens einigen der Spielerpositionen (8) an den Tischen (2) des Systems, um zu ermöglichen, daß Spieler einen Nebenwetteinsatz für eine Gewinnchance eines Jackpots setzen, wobei die Annahmeeinrichtung (12) ein Mittel (14) umfaßt, um wahrzunehmen, wenn eine Münze von der Annahmeeinrichtung (12) aufgenommen worden ist, und ein Mittel (100) umfaßt, um ein entsprechendes Teilnahme signal zu erzeugen;

ein Ausschlußmittel (32) an den Geberpositionen (10) an den Tischen (2), um die Erzeugung eines Teilnahmesignals zu verhindern, wenn ein Nebenwetteinsatz an Annahmeeinrichtungen (12) eines Tisches gesetzt worden ist, sobald ein Kartenspiel an diesem Tisch beginnt und bis das Kartenspiel an diesem Tisch abgeschlossen ist;

einen Computer (22; 24), der wirksam mit den Annahmeeinrichtungen an allen Tischen gekoppelt ist, um angesammeltes Jackpot-Geld zu verfolgen, und ein Mittel umfaßt, um die Größe des verfügbaren Jackpots als eine Funktion von Nebenwetteinsätzen zu vergrößern, die an den Annahmeeinrichtungen an allen Tischen des Systems gesetzt worden sind;

ein Mittel (28), das wirksam mit dem Computer gekoppelt ist, um den Spielern und Gebern an allen Tischen des Systems die Größe des gegenwärtig verfügbaren Jackpots mitzuteilen;

ein Auszahlungsmittel (40) an der Geberposition (10) von allen Tischen in dem System, das wirksam mit dem Computer (22; 24) gekoppelt ist und gestattet, daß ein Geber dem Computer mitteilt, wenn ein Spieler an diesem Tisch, der einen Nebenwetteinsatz an der Münzannahmeeinrichtung gesetzt hat, ein Kartenblatt hält, das zu dem Jackpot berechtigt; und

wobei der Computer (22; 24) mit dem Mitteilungsmittel (28) gekoppelt ist, um von dem angesammelten Jackpot-Geld den Jackpot abzu ziehen, der von dem Spieler mit dem Kartenblatt gewonnen worden ist, und um den Spielern und den Gebern an den Tischen des Systems eine resultierende Änderung des Jackpots mitzuteilen, der von den Spielern gewonnen werden kann.

21. System nach Anspruch 20, wobei das an dem System spielbare Black-Jack-Spiel eine Vielzahl von Jackpots unterschiedlicher Größen umfaßt, die von Spielern gewonnen werden können, wenn sie vorbestimmte Kartenblätter halten; und es ein Signalisierungsmittel (28) umfaßt, das zu jeder Geberposition (10) an den Tischen (2) des Systems benachbart ist und von dem Geber betätigt werden kann, um dem Computer mitzuteilen, welcher der Vielzahl von Jackpots von einem Spieler an diesem Tisch gewonnen worden ist.

22. System nach Anspruch 20, wobei das Mitteilungsmittel (28) ein Mittel umfaßt, um den Spielern und den Gebern an den Tischen des Systems die gegenwärtige Größe der Vielzahl von Jackpots getrennt mitzuteilen.

23. System nach Anspruch 18 oder Anspruch 20, wobei die Tische (2) in einer einzigen Spielanstalt angeordnet sind.

24. System nach Anspruch 18 oder Anspruch 20, wobei mindestens einige der Tische bei mehreren, geographisch getrennten Spielanstalten angeordnet sind.

25. Verfahren zum Spielen von Black-Jack-Kartenspielen durch reale Personen und zum Versehen von teilnehmenden Spielern mit einer Möglichkeit, einen großen Jackpot zu gewinnen, wenn er ein Blatt mit vorbestimmten Karten hält, wobei das Verfahren durch die Schritte gekennzeichnet ist, daß:

(a) mehrere herkömmliche, durch reale Personen durchgeführte Black-Jack-Spiele an mehreren, getrennten, mit realen Personen besetzten Black-Jack-Kartenspieltischen gespielt werden;

- (b) daß Spielern an den Tischen eine Möglichkeit geboten wird, den Jackpot zu gewinnen, indem sie eine Nebenwetteinsatzmünze an vorbestimmten Stellen an den Tischen, die Spielerpositionen entsprechen, setzen;
- (c) daß das Setzen der Nebenwetteinsatzmünzen an den Tischen wahrgenommen wird;
- (d) daß Geld angesammelt wird, daß zur Auszahlung des Jackpots als eine Funktion jeder Nebenwetteinsatzmünze verfügbar ist, die an den Tischen gesetzt wird;
- (e) daß aus dem verfügbaren Jackpot-Geld die Größe des Jackpots bestimmt wird;
- (f) daß an jedem Tisch Black-Jack mit mehreren vollständigen Kartenpacks gespielt wird;
- (g) daß das vorbestimmte Blatt ausgewählt wird, daß ein Kartenblatt mit gleichem Wert und gleicher Farbe umfaßt;
- (h) daß der Jackpot einem Spieler zugesprochen wird, der das vorbestimmte Kartenblatt hält und eine Nebenwetteinsatzmünze an dieser Stelle gesetzt hat;
- (i) daß danach der Jackpot, der von dem Spieler gewonnen worden ist, der das gewinnende Kartenblatt hielt, von dem verfügbaren Jackpot-Geld abgezogen wird; und
- (j) daß die Schritte (a) - (h) wiederholt werden, bis ein nächster Jackpot von einem Spieler gewonnen wird.
26. Verfahren nach Anspruch 25, das den Schritt umfaßt, daß die Vielzahl von mit realen Personen besetzten Kartentischen in einer einzigen Spielanstalt eingerichtet wird.
27. Verfahren nach Anspruch 25, das den Schritt umfaßt, daß die Vielzahl von Tischen in mehreren geographisch getrennten Spielanstalten eingerichtet wird.
28. Verfahren nach Anspruch 25, wobei das vorbestimmte Kartenblatt drei Karten derselben Farbe umfaßt, die jeweils einen Wert von sieben aufweisen.
29. Verfahren nach Anspruch 25, wobei die Gewinnkarte vier Karten der gleichen Farbe umfaßt, die jeweils einen Wert von fünf aufweisen.
30. Verfahren nach Anspruch 29, das den Schritt umfaßt, daß die Black-Jack-Spiele an jedem der Vielzahl von Tischen mit sechs vollständigen Kartenpacks gespielt werden.
31. Verfahren nach Anspruch 30, wobei der Jackpot mindestens eine Million Dollar beträgt.
32. Verfahren nach Anspruch 25, das die Schritte umfaßt, daß eine Vielzahl von Jackpots unterschiedlicher Größe festgelegt wird, die an den Tischen des Systems gewonnen werden können, und daß eine gleiche Vielzahl von vorbestimmten unterschiedlichen Kartenblättern ausgewählt wird, mit der die Vielzahl von Jackpots gewonnen werden kann.
33. Verfahren nach Anspruch 32, das den Schritt umfaßt, daß drei unterschiedliche Jackpot-Summen festgelegt werden.
34. Verfahren nach Anspruch 25, wobei der Wahrnehmungsschritt den Schritt umfaßt, daß ein elektrisches Signal für jede Nebenwetteinsatzmünze erzeugt wird, die an den Stellen an den Tischen gesetzt wird, und den Schritt umfaßt, daß die Erzeugung des Signals in Ansprechen auf die Nebenwetteinsatzmünzen verhindert wird, die an den Stellen eines Tisches des Systems gesetzt werden, an dem ein Black-Jack-Spiel gerade beginnt, um das Setzen von verspäteten Nebenwetteinsätzen zu verhindern.

Revendications

1. Accepteur de pièces de monnaie (12), destiné à être utilisé sur des tables de jeux en direct (2) ayant un dessus de table horizontal et plat (50), comportant un capteur (14) pour détecter la présence d'une pièce, et des moyens formant circuit (100) couplés de façon opérationnelle au capteur (14) pour générer un signal en réponse à la présence d'une pièce et pour transmettre le signal, caractérisé en ce que l'accepteur (12) est constitué par un disque (66) ayant un côté inférieur (68) destiné à être placé sur le dessus de table (50), un côté supérieur (70) et une ouverture de contrôle (84) s'étendant à travers le disque (66); en ce que ledit capteur (14) est monté sur le côté inférieur (68) du disque (66) et est positionné de façon à être sensiblement aligné avec l'ouverture de contrôle (84) pour détecter la présence d'une pièce sur le côté supérieur du disque (66); et en ce qu'il est prévu des moyens (64) pour assujettir le disque au dessus de table.
2. Accepteur de pièces de monnaie selon la revendication 1, comprenant un évidement (74) formé sur le côté supérieur, disposé autour de l'ouverture de contrôle (84) et dimensionné pour recevoir une pièce.

- ce de sorte que la pièce recouvre l'ouverture de contrôle (84).
3. Accepteur de pièces de monnaie selon la revendication 1, dans lequel le disque (66) comprend une périphérie définie par une surface en pente (72) s'étendant sensiblement depuis le côté inférieur (68) jusqu'au côté supérieur (70) du disque pour faciliter un déplacement à coulissement d'une pièce depuis le dessus de table (50) jusque sur le côté supérieur lorsque l'accepteur (12) est installé sur le dessus de table (50).
 4. Accepteur de pièces de monnaie selon la revendication 3, dans lequel la périphérie est courbe.
 5. Accepteur de pièces de monnaie selon la revendication 4, dans lequel la périphérie est sensiblement circulaire.
 6. Accepteur de pièces de monnaie selon la revendication 1, dans lequel le circuit comprend une source de lumière (96), ainsi que des moyens pour mettre sous tension la source de lumière lorsque le capteur (14) détecte la présence d'une pièce de monnaie sur le côté supérieur du disque (66).
 7. Accepteur de pièces de monnaie selon la revendication 6, comprenant une carte (92) pour le montage des moyens formant circuit (100) y compris le capteur (14) et la source de lumière (96); et des moyens (94) pour assujettir la carte au côté inférieur (68) du disque (66), de sorte que la carte (92) positionne le capteur de façon à ce qu'il soit sensiblement aligné avec l'ouverture de contrôle (84).
 8. Accepteur de pièces de monnaie selon la revendication 1, dans lequel les moyens d'assujettissement comportent une plaque (58) comprenant une découpe (60) adaptée pour être sensiblement alignée avec une découpe (56) prévue dans le dessus de table (50), et des moyens (64) pour appliquer le disque (66) et la plaque (58) contre des surfaces opposées du dessus de table (50) pour assujettir ainsi l'accepteur (12) à la table (2).
 9. Accepteur de pièces de monnaie selon les revendications 2 et 7, comportant une surface périphérique tronconique (72) entre le côté inférieur (68) et le côté supérieur (70) pour faciliter le déplacement à coulissement d'une pièce de monnaie depuis le dessus de table le long de la surface tronconique (72) et jusque dans l'évidement (74), et une ouverture de signalisation (88) s'étendant depuis le côté supérieur (70) jusqu'au côté inférieur (68) et située entre l'évidement (74) et la surface périphérique tronconique (72); la carte (92) étant formée de telle sorte que le capteur (14) soit sensiblement aligné avec l'ouverture de contrôle (84) et que la source de lumière (96) soit sensiblement alignée avec l'ouverture (88).
 10. Accepteur de pièces de monnaie selon la revendication 9, dans lequel l'évidement (74) est de forme circulaire et défini par un fond (78), et comprenant une surface en pente (82) entre le fond (78) de l'évidement et le côté supérieur du disque (66) pour faciliter un retrait à coulissement d'une pièce de monnaie de l'évidement.
 11. Accepteur de pièces de monnaie selon la revendication 9, comprenant un couvercle (86) fermant l'ouverture de contrôle (84) pour empêcher la contamination de l'ouverture et du capteur (14), le couvercle (86) étant au ras du fond (78) de l'évidement et étant construit à partir d'une matière permettant au capteur (14) de détecter à travers le couvercle la présence d'une pièce de monnaie dans l'évidement (74).
 12. Accepteur de pièces de monnaie selon la revendication 9, comprenant une fenêtre de transmission de lumière (90) placée sur l'ouverture (88) pour empêcher la contamination de l'ouverture (88) et de la source de lumière (96).
 13. Table de jeu (2) pour permettre à une pluralité de joueurs et à un donneur de jouer aux cartes, la table (2) comportant un dessus de table (50) et des accepteurs de pièces de monnaie (12), caractérisée en ce que le dessus de table (50) comprend une couche de feutre supérieure (54) et des découpes (56) prévues dans le dessus (50) en des emplacements situés à proximité de positions de jeu prévues pour les joueurs sur la table, et généralement situés entre les positions (8) des joueurs et une position (10) prévue sur la table pour le donneur; et un accepteur de pièces de monnaie (12) selon l'une quelconque des revendications précédentes pour chaque position de joueur (8) sur la table (2).
 14. Table de jeu selon la revendication 13 lorsque celle-ci dépend de la revendication 12, dans laquelle la fenêtre (90) est positionnée dans une partie du côté supérieur du disque (66) la plus proche de la position (10) du donneur.
 15. Table de jeu selon la revendication 9 et la revendication 13, dans laquelle le côté supérieur (70) du disque (66) définit une surface plate annulaire entre l'évidement (74) et la surface tronconique (72) qui est sensiblement parallèle au côté inférieur (68) du disque (66), et dans laquelle l'ouverture (88) est si-

tuée radialement à l'extérieur de l'évidement (74).

16. Table de jeu selon la revendication 15, dans laquelle l'ouverture (88) s'étend à travers la surface annulaire plate (70).

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17. Table de jeu selon la revendication 13, comprenant des moyens accessibles à travers la découpe prévue dans le dessus de table pour assujettir la carte de façon amovible au disque.

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18. Système de jeu à versement de gros lot amélioré pour jeux de cartes en direct en une pluralité d'emplacements de jeu, comportant :

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une table de jeu selon l'une quelconque des revendications précédentes 13 à 17 ;

un ordinateur (22 ; 24) couplé de façon opérationnelle aux moyens formant circuit (100) de chaque accepteur de pièces de monnaie (12) à chaque position de joueur (8) sur les tables pour accumuler un gros lot d'argent de récompense disponible en réponse à la réception desdits signaux en provenance des accepteurs de pièces de monnaie (12) ;

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des moyens (28) couplés de façon opérationnelle à l'ordinateur (22;24) pour communiquer aux joueurs présents aux tables du système le montant courant du gros lot ;

des moyens (32) prévus à chaque table et situés à proximité de la position (10) du donneur pour empêcher la génération de signaux par les accepteurs de pièces de monnaie (12) de la table concernée lorsqu'une pièce est placée dessus après le commencement d'un jeu de cartes sur ladite table et pendant que ledit jeu de cartes est en cours ; et

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des moyens de versement de récompense (40) prévus pour chaque table du système, situés à proximité des positions de donneur (12) et couplés de façon opérationnelle à l'ordinateur (22 ; 24) pour déduire du gros lot accumulé d'argent de récompense disponible un versement de gros lot amélioré gagné par un joueur se trouvant à une position de joueur de la table et qui a placé une pièce dans l'accepteur de pièces de monnaie associé (12).

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19. Système selon la revendication 18, comprenant un indicateur de paris complémentaires (96) couplé de façon opérationnelle à chaque accepteur de pièces de monnaie (12) pour indiquer la détection par le capteur (14) de la présence d'une pièce sur l'accepteur de pièces de monnaie (12).

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20. Système pour jouer à de multiples jeux indépendants de vingt-et-un en direct en divers emplacements (4, 6) et pour accumuler de l'argent de gros

lot et verser un gros lot important disponible dans le cadre du système, le système comportant :

une pluralité de tables (2) de jeux de vingt-et-un en direct, chaque table comprenant une pluralité de positions de joueur (8) et une position de donneur (10) ;

un accepteur de pièces de monnaie (12) prévu à au moins certaines des positions de joueurs (8) sur les tables (2) du système pour permettre aux joueurs de faire un pari complémentaire pour avoir une chance de gagner un gros lot, l'accepteur (12) comprenant des moyens (14) pour détecter la réception d'une pièce de monnaie par l'accepteur (12) et des moyens (100) pour générer un signal de participation correspondant ;

des moyens de verrouillage (32) prévus au niveau des positions de donneur (10) sur les tables (2) pour empêcher la génération d'un signal de participation lorsqu'un pari complémentaire est placé sur les accepteurs (12) d'une table une fois qu'un jeu de cartes a commencé à cette table, et jusqu'à ce que le jeu de cartes de ladite table soit terminé ;

un ordinateur (22 ; 24) couplé de façon opérationnelle aux accepteurs de toutes les tables pour suivre l'évolution de l'argent de gros lot accumulé, comprenant des moyens pour augmenter le montant du gros lot disponible en fonction des paris complémentaires placés sur les accepteurs de toutes les tables du système ;

des moyens (28) couplés de façon opérationnelle à l'ordinateur pour communiquer aux joueurs et aux donneurs de toutes les tables du système le montant du gros lot couramment disponible ;

des moyens de versement de récompense (40) prévus au niveau de la position de donneur (10) de toutes les tables du système couplés de façon opérationnelle à l'ordinateur (22;24) permettant à un donneur de signaler à l'ordinateur qu'un joueur de la table concernée qui a placé un pari complémentaire sur l'accepteur de pièces de monnaie détient une main de cartes donnant droit au gros lot ; et

dans lequel l'ordinateur (22 ; 24) est couplé aux moyens (28) de communication pour déduire de l'argent de gros lot accumulé le gros lot gagné par le joueur ayant ladite main de cartes et pour communiquer aux joueurs et aux donneurs des tables du système une modification résultante du gros lot susceptible d'être gagné par des joueurs.

21. Système selon la revendication 20, dans lequel le jeu de vingt-et-un auquel il est possible de jouer sur

- le système comprend une pluralité de gros lots de différents montants pouvant être gagnés par des joueurs lorsqu'ils détiennent des mains de cartes prédéterminées ; et comprenant des moyens de signalisation (28) prévus à proximité de chaque position de donneur (10) des tables (2) du système aptes à être commandés par le donneur pour communiquer à l'ordinateur celui des gros lots de la pluralité de gros lots qui a été gagné par un joueur de ladite table.
22. Système selon la revendication 20, dans lequel les moyens (28) de communication comprennent des moyens pour communiquer séparément aux joueurs et aux donneurs des tables du système le montant courant de la pluralité de gros lots.
23. Système selon la revendication 18 ou 20, dans lequel les tables (2) se trouvent dans un seul établissement de jeu.
24. Système selon la revendication 18 ou 20, dans lequel au moins certaines des tables se trouvent dans de multiples établissements de jeu géographiquement séparés.
25. Procédé pour jouer au jeu de vingt-et-un en direct et pour offrir aux joueurs qui y participent une chance de gagner un gros lot important lorsqu'ils détiennent une main de cartes prédéterminée, le procédé étant caractérisé par les étapes consistant :
- (a) à jouer à une pluralité de jeux de vingt-et-un en direct, classiques sur une pluralité de tables de vingt-et-un en direct séparées ;
 - (b) à offrir aux joueurs présents aux tables une chance de gagner ledit gros lot en plaçant une pièce de monnaie constituant un pari complémentaire en des emplacements prédéterminés prévus sur les tables correspondant aux positions de joueurs ;
 - (c) à détecter le placement de pièces constituant des paris complémentaires sur les tables ;
 - (d) à accumuler de l'argent disponible pour le versement du gros lot en fonction de chaque pièce constituant un pari complémentaire placée sur les tables ;
 - (e) à déterminer, à partir de l'argent de gros lot disponible, le montant du gros lot ;
 - (f) à jouer au vingt-et-un à chaque table avec une pluralité de jeux de cartes complets ;
 - (g) à sélectionner ladite main prédéterminée comportant une main de cartes de valeur et de couleur semblables ;
 - (h) à verser le gros lot à un joueur qui détient ladite main de cartes prédéterminée et qui a placé une pièce constituant un pari complémentaire au niveau dudit emplacement ;
 - (i) à déduire ensuite le gros lot gagné par le joueur détenant ladite main de cartes gagnante de l'argent de gros lot disponible ; et
 - (j) à répéter les étapes (a) à (h) jusqu'à ce qu'un gros lot suivant soit gagné par un joueur.
26. Procédé selon la revendication 25, comprenant l'étape consistant à installer la pluralité de tables de jeux en direct dans un seul établissement de jeu.
27. Procédé selon la revendication 25, comprenant l'étape consistant à installer la pluralité de tables dans une pluralité d'établissements de jeu géographiquement séparés.
28. Procédé selon la revendication 25, dans lequel ladite main de cartes prédéterminée comporte trois cartes de même couleur ayant chacune une valeur de sept.
29. Procédé selon la revendication 25, dans lequel ladite main gagnante comprend quatre cartes de même couleur ayant chacune une valeur de cinq.
30. Procédé selon la revendication 29, comprenant l'étape consistant à jouer aux jeux de vingt-et-un sur chacune des tables de la pluralité de tables avec six jeux complets de cartes.
31. Procédé selon la revendication 30, dans lequel ledit gros lot se monte à au moins un million de dollars.
32. Procédé selon la revendication 25, comprenant les étapes consistant à établir une pluralité de gros lots de différents montants susceptibles d'être gagnés aux tables du système, et à sélectionner une même pluralité de mains de cartes prédéterminées différentes avec lesquelles la pluralité de gros lots peut être gagnée.
33. Procédé selon la revendication 32, comprenant l'étape consistant à établir trois montants de gros lots différents.
34. Procédé selon la revendication 25, dans laquelle l'étape de détection comporte l'étape consistant à générer un signal électrique pour chaque pièce constituant un pari complémentaire placée auxdits emplacements des tables, et comprenant l'étape consistant à empêcher la génération du signal en réponse à des pièces constituant des paris complémentaires placées à des emplacements d'une table du système sur laquelle un jeu de vingt-et-un est sur le point de commencer, pour empêcher le placement de paris complémentaires tardifs.

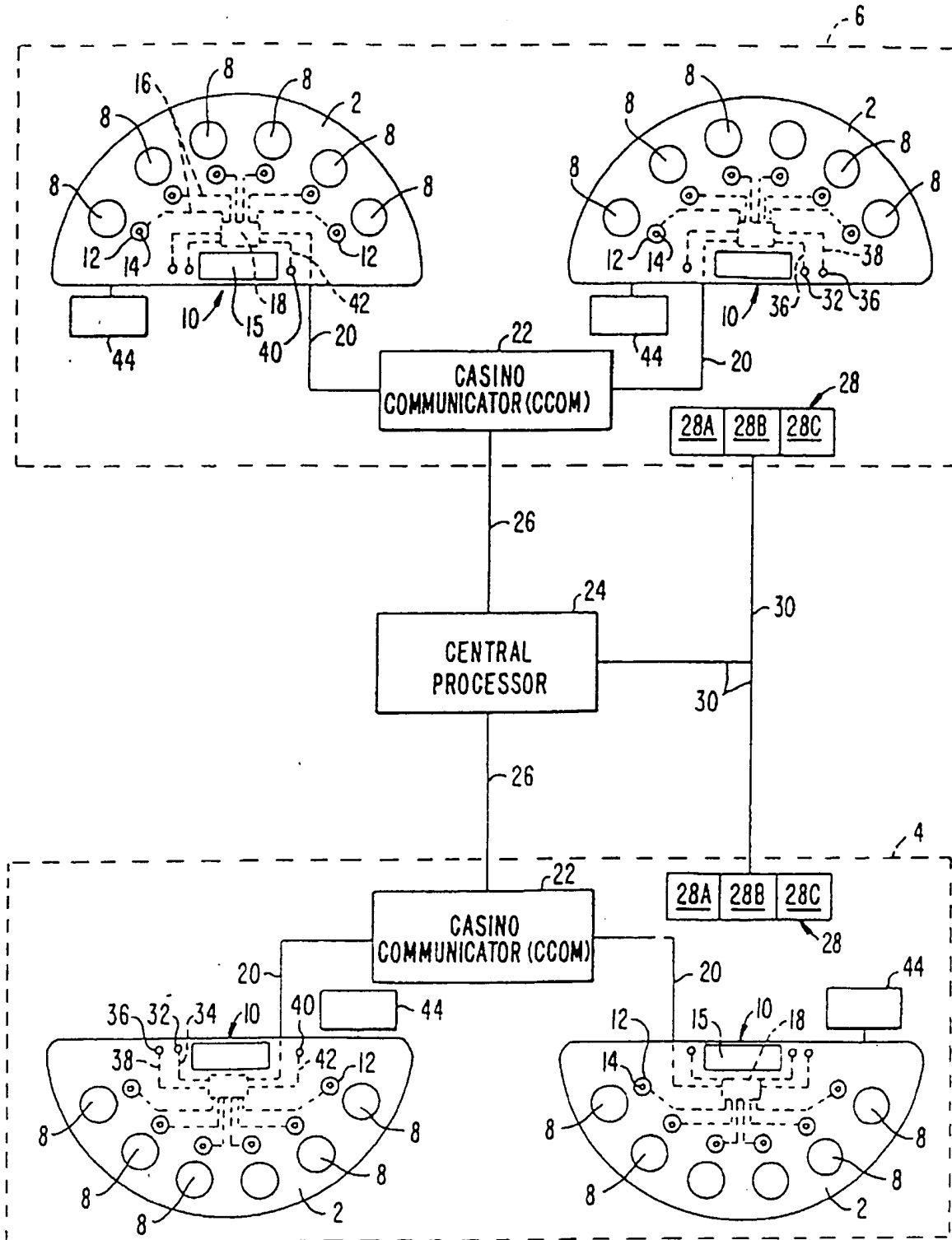


FIG. 1.

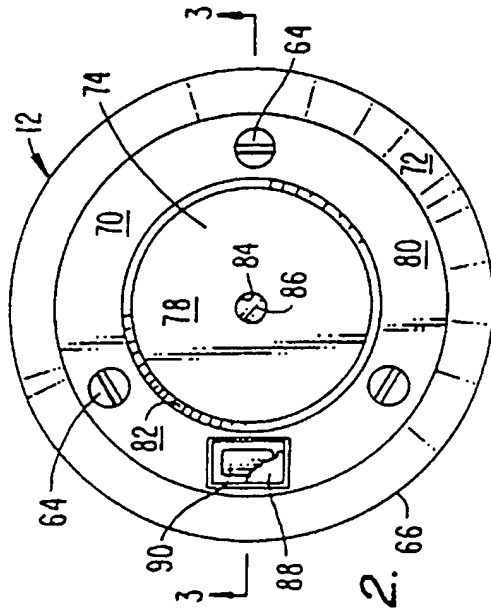


FIG. 2.

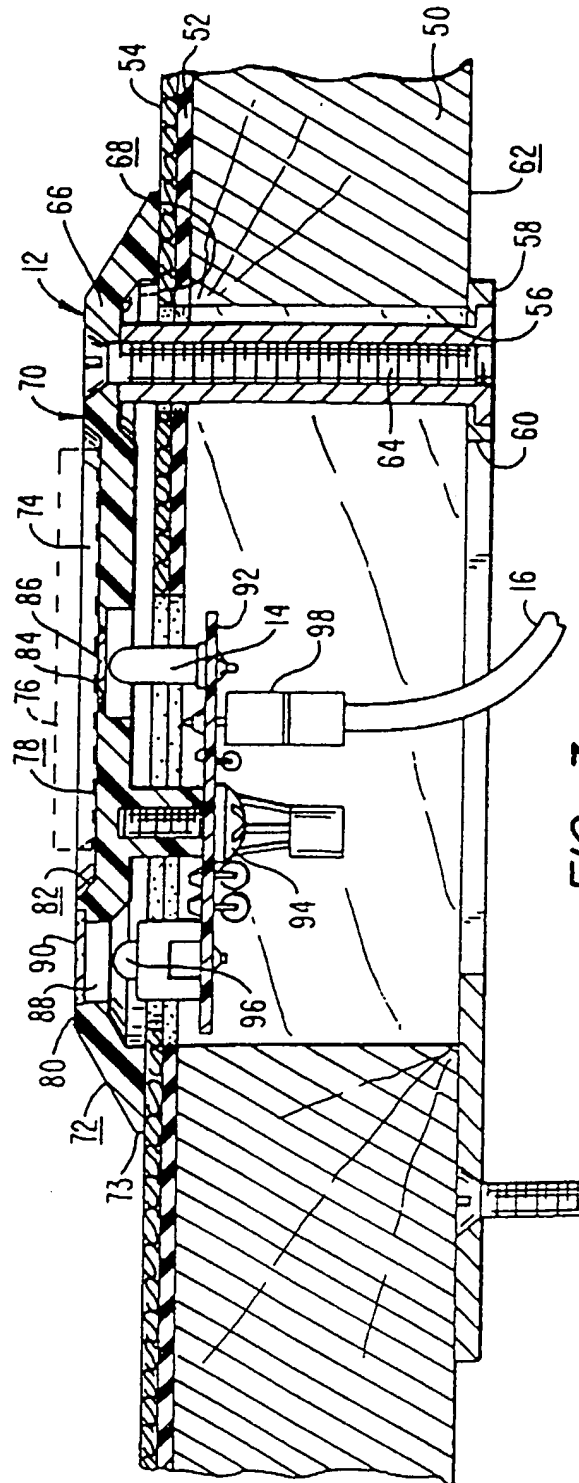


FIG. 3.

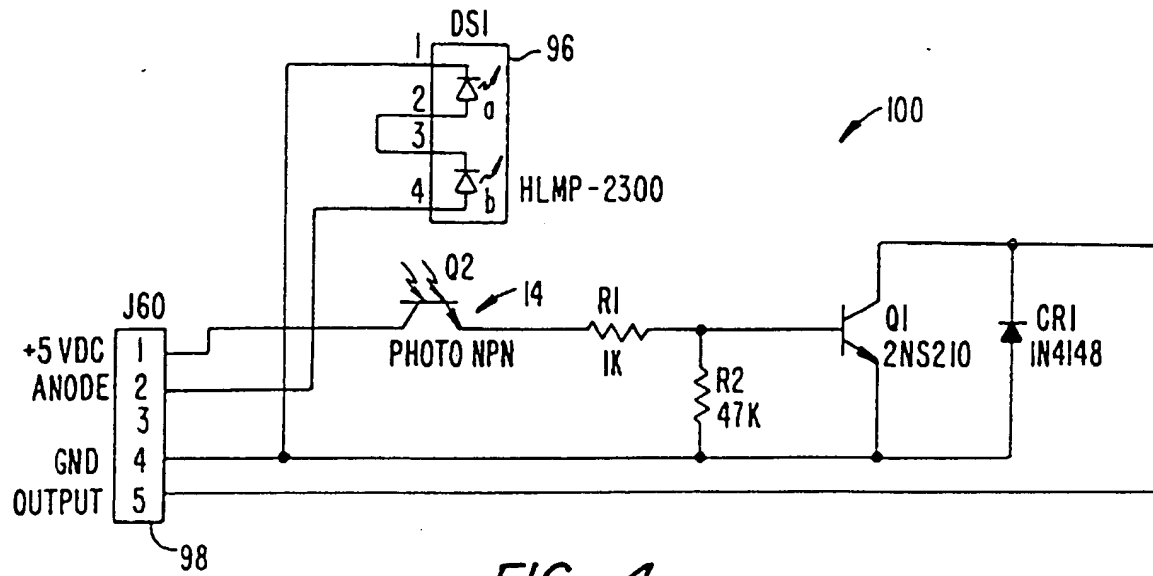


FIG. 4.

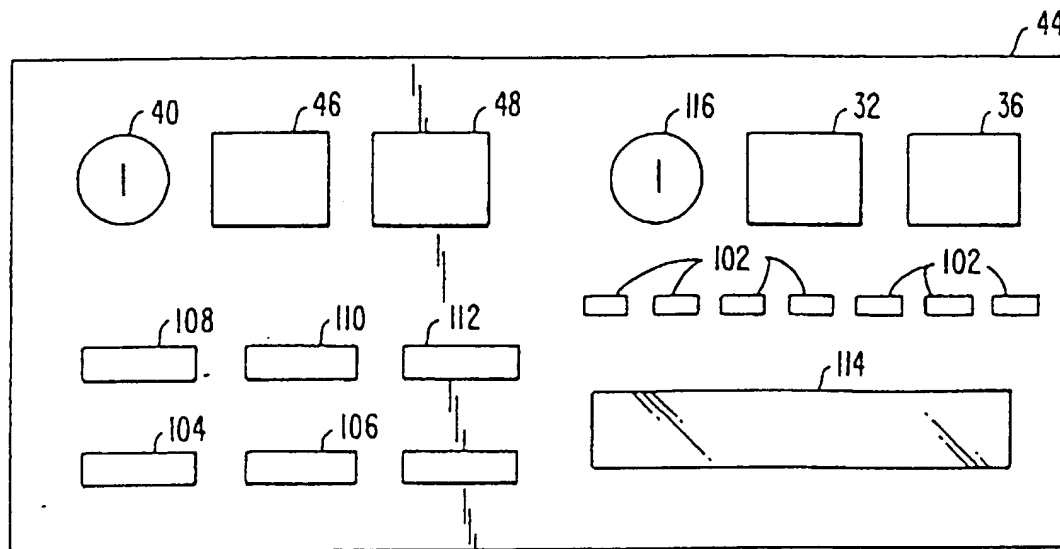


FIG. 5.

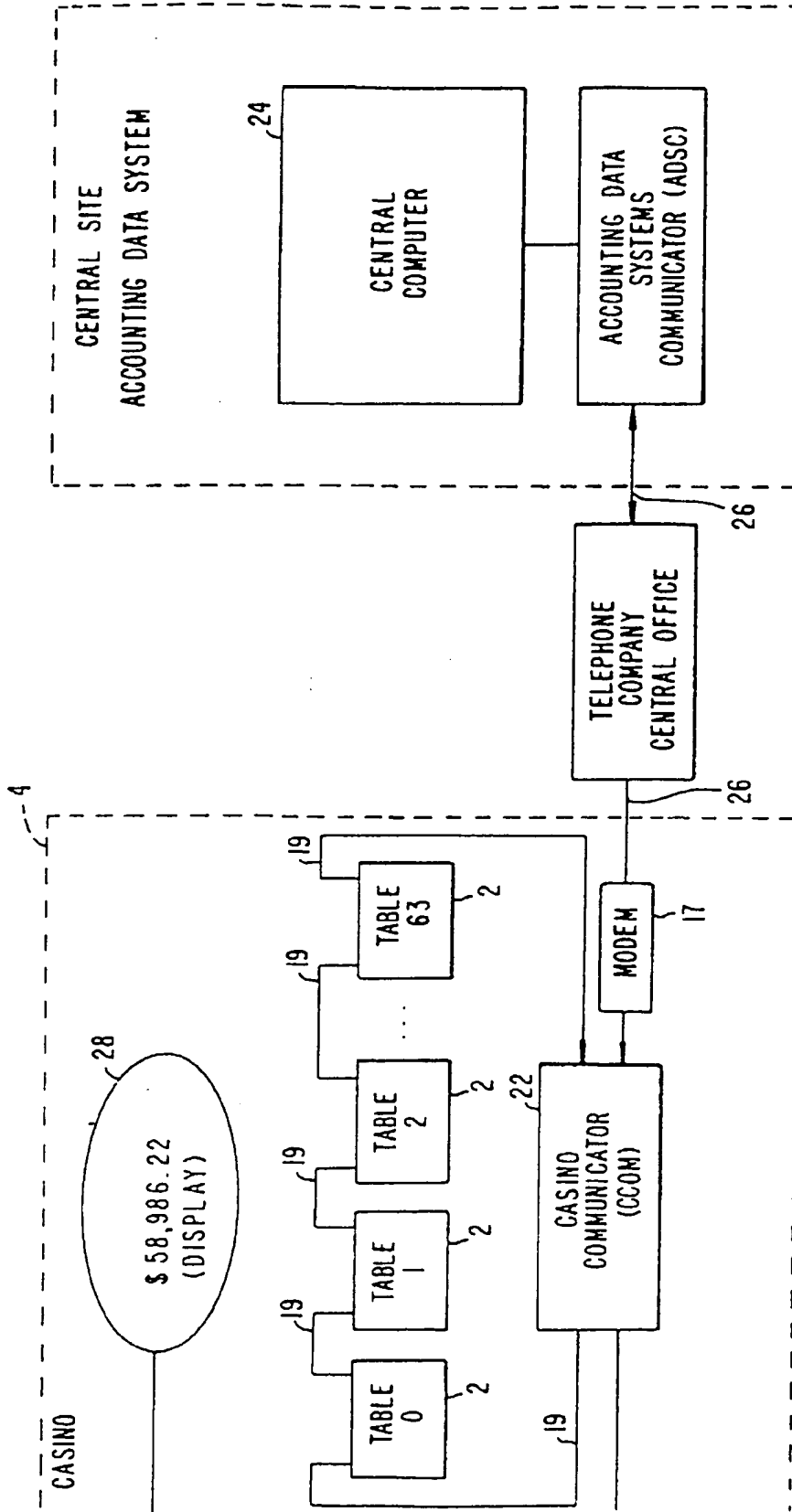


FIG. 6.